The Use of EMLA® for an Intraoral Soft-tissue Biopsy in a Needle Phobic: A Case Report

J. G. Meechan, BSc, BDS, PhD, FDSRCPS
Department of Oral and Maxillofacial Surgery, The Dental School, Newcastle Upon Tyne, UK

A case is reported of the removal of a leaf fibroma from the mucosa of the hard palate using EMLA® topical anesthesia as the sole means of pain control.

Key Words: EMLA; Lidocaine; Prilocaine; Topical anesthesia; Intraoral.

The advent of the modern topical anesthetics that permit anesthesia of skin suggest that these agents may be useful for soft-tissue surgery intraorally. A recent double-blind volunteer investigation suggested that EMLA® (AstraZeneca, King's Langley, Hertfordshire, UK) could be used as the sole means of gingival anesthesia.[1] This case report describes the use of EMLA cream (a 5% eutectic mixture of the local anesthetics prilocaine and lidocaine) as the sole means of anesthesia for the removal of a leaf fibroma from the palatal mucosa in the first bicuspid region in a needle-phobic patient.

CASE REPORT

A 64-year-old male was referred for removal of a leaf fibroma from his palatal mucosa in the first bicuspid area under a partial denture. The patient admitted to being a needle phobic and was offered the option of having the surgery performed using topical anesthesia. The partial denture was removed, the area of biopsy dried, and approximately 0.5 g EMLA applied to the body and pedicle of the fibroma (Figure 1). The original denture was reseated and left in situ for 15 minutes. Following removal of the topical anesthetic, the surgical site was probed with a needle and the patient reported no discomfort. The lesion was then removed with a scalpel. Hemostasis was achieved by inserting the partial denture with a zinc oxide dressing over the wound. When the partial denture was removed 5 minutes later, hemostasis was complete (Figure 2). The patient was asked whether or not he found the procedure uncomfortable and reported that he would be happy to have similar surgery performed using this method of anesthesia in the future. Histopathological examination confirmed the diagnosis of leaf fibroma, and at review 2 weeks after the biopsy, the patient had healed well and was discharged.

DISCUSSION

EMLA was introduced to allow pain-free manipulation of the skin and has proved to be successful in reducing the pain of venous cannulation.[2,3] The use of EMLA cream intraorally has been investigated by a number of workers.[1,4–8] It has been shown to be better than 5% lidocaine in providing topical anesthesia of the attached gingivae[1] and has been suggested as a means of providing anesthesia for the removal of arch bars.[8] A 10-minute application of EMLA to attached gingiva has been shown to provide absence of sensation to pin-prick for at least 12 minutes following removal of the topical (with up to 30 minutes in some volunteers).[1] There is even some evidence that EMLA may provide pulpal anesthesia after application to the gingivae.[6]

The use of topical anesthetics as the sole means of anesthesia for intraoral biopsies has been reported.[9] However, the use of lidocaine alone as the topical agent was associated with some discomfort during incision at the base of biopsy sites.[9] As far as the author is aware, the use of EMLA as the sole means of anesthesia for intraoral biopsy has not been reported previously.

When using topical anesthetics on mucosa, it is important to remember that absorption will occur and that systemic effects may be produced. The application of

Received September 25, 2000; accepted for publication February 7, 2001.

Address correspondence to J. G. Meechan, Department of Oral and Maxillofacial Surgery, The Dental School, Framlington Place, Newcastle Upon Tyne NE2 4BW, UK; J.G.Meechan@ncl.ac.uk.

Anesth Prog 48:32–34 2001

ISSN 0003-3006/01/$9.50
SSDI 0003-3006(01)

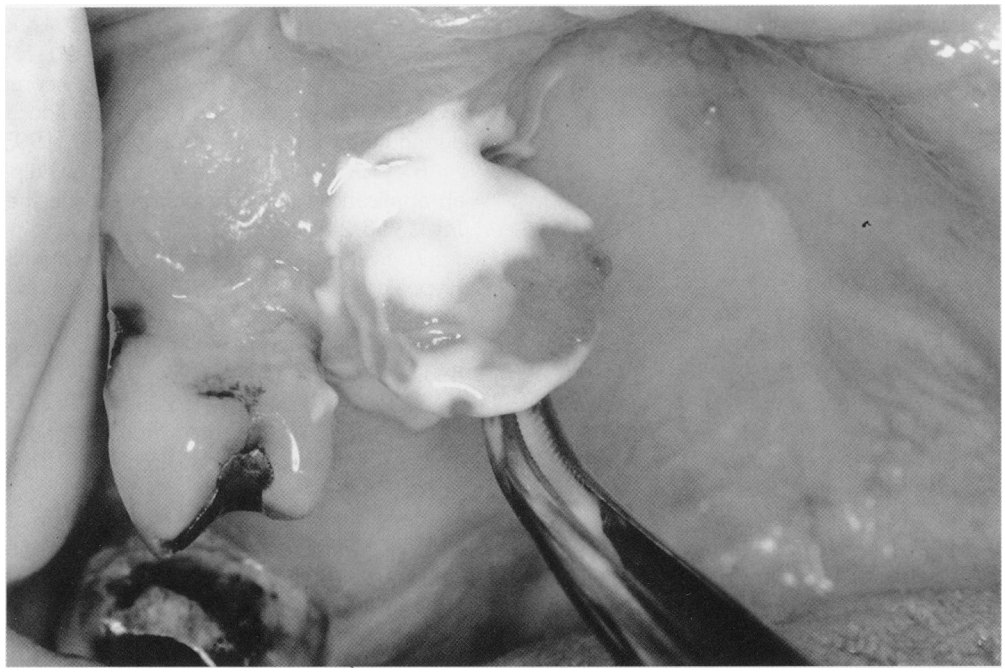

Figure 1. The leaf fibroma smeared with EMLA.

amounts of EMLA around 10-fold greater than that used in this case has been shown to produce plasma levels of anesthetic an order of magnitude below that needed to create systemic toxicity.[10]

This case suggests that EMLA provides satisfactory topical anesthesia for minor soft tissue surgery intraorally; however, the present formulation of EMLA is not ideal for intraoral use. It is difficult to maintain in the correct position due to its low viscosity. Indeed, in many of the trials investigating the intraoral use of EMLA, custom splints have been made to maintain the agent in position. In this case, the presence of the partial denture enabled localization of the anesthetic in the area of surgery.

Figure 2. Hemostasis obtained.

In conclusion, a 15-minute application of EMLA was successful as the sole means of anesthesia for a soft-tissue biopsy from the palatal mucosa in a needle-phobic patient.

REFERENCES

1. McMillan AS, Walshaw D, Meechan JG. The efficacy of EMLA® and 5% lignocaine gel for anaesthesia of human gingival mucosa. *Br J Oral Maxillofac Surg.* 2000;38:58–61.

2. Reiz EGME, Reiz SLA. EMLA—a eutectic mixture of local anaesthetics for topical anaesthesia. *Acta Anaesthesiol Scand.* 1982;26:596–598.

3. Manner T, Kanto J, Iisalo E, Lindberg R, Viinamaki O, Scheinin M. Reduction of pain at venous cannulation in children with a eutectic mixture of lidocaine and prilocaine (EMLA® cream): comparison with placebo and no local premedication. *Acta Anaesthesiol Scand.* 1987;31:735–739.

4. Haasio J, Jokinen T, Numminen M, Rosenberg PH. Topical anaesthesia of gingival mucosa by 5% eutectic mixture of lignocaine and prilocaine or by 10% lignocaine spray. *Br J Oral Maxillofac Surg.* 1990;28:99–101.

5. Donaldson D, Meechan JG. A comparison of the effects of EMLA cream and topical 5% lidocaine on discomfort during gingival probing. *Anesth Prog.* 1995;42:7–10.

6. Vickers ER, Punnia Moorthy A. Pulpal anesthesia from an application of a eutectic topical anesthetic. *Quintessence Int.* 1993;24:547–551.

7. Svennson P, Bjerring P, Arendt-Nielsen L, Kaaber S. Hypoalgesic effect of EMLA and lidocaine gel applied on human oral mucosa: quantitative evaluation by sensory and pain thresholds to argon laser stimulation. *Anesth Prog.* 1992;39:4–8.

8. Pere P, Iizuka T, Rosenberg PH, Linqvist C. Topical application of 5% eutectic mixture of lignocaine and prilocaine (EMLA) before removal of arch bars. *Br J Oral Maxillofac Surg.* 1992;30:153–156.

9. Roller NW, Ship II. Lidocaine topical film strip for oral mucosal biopsies. *J Oral Med.* 1975;30:55–58.

10. Vickers ER, Marzbani N, Gerzina TM, McLean C, Punnia-Moorthy A, Mather L. Pharmacokinetics of EMLA cream application to oral mucosa. *Anesth Prog.* 1997;44:32–37.